



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,541	12/17/2003	Dirk Mauler	4002-1025-1	5642

466 7590 10/18/2005

YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

CORDRAY, DENNIS R

ART UNIT	PAPER NUMBER
----------	--------------

1731

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/736,541

Applicant(s)

MAULER, DIRK

Examiner

Dennis Cordray

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/11/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

This is a first action on the merits of Application SN 10/736,541.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wallenius et al (6068734) in view of Espy (5316623) and further in view of Vinson et al (5958185) and Vinson et al (5611890).

Wallenius et al discloses a tissue paper (col 1, lines 6-7) comprising an admixture of

(a) at least 10% of a long fiber pulp that has been beaten to a freeness value of 20-40 °SR and

(b) at least 20% of a 60-70% long fiber pulp that has not been beaten or that has been beaten to a freeness of at least 600 ml CSF (col 1, lines 60-65; col 2, lines 18-20 and 26-30).

Wallenius et al also discloses that the fibers can be softwood fibers (col 3, lines 12-15). Wallenius et al also discloses a paper comprising a wet strength resin (col 4, lines 5-6). Wallenius further discloses a process for making the tissue comprising beating the cellulosic fibers, wet laying and dewatering the fibers and then drying and

Art Unit: 1731

creping the fibers (col 3, lines 54-57; col 4, lines 3-11). While the reference paper used by Wallenius et al was made from fibers beaten to a freeness of between 20 and 26 °SR, it would have been obvious to further refine the fibers to a freeness of greater than 26 °SR (up to 40 °SR) in view of the range previously specified.

Wallenius et al does not disclose adding an anionic polymer or a softener.

Wallenius et al also does not disclose the composition of the wet strength agent.

Wallenius et al further does not disclose the amounts of additives used in the process.

Espy discloses an absorbent paper (col 1, lines 6-7) comprising softwood and/or hardwood pulp (col 9, lines 4-9) and

(A) a wet strength resin that can be a polyaminoamide-epichlorohydrin resin, a polyamine-epichlorohydrin resin, or an aminopolymer-epichlorohydrin resin (col 2, lines 24-28),

(B) a water-soluble anionic polymer that can be derived from polyacrylic acid, carboxylic acids, and carboxyalkylated polysaccharides (col 2, lines 29-32; col 3, lines 25-33). Of these, carboxymethyl cellulose (a carboxyalkylated cellulose) is the most preferred (col 3, lines 67-68).

(C) a tertiary amino polyamide-epichlorohydrin resin (col 2, lines 33-34).

Espy teaches that other effective wet strength resins include urea-formaldehyde and melamine-formaldehyde resins (col 1, lines 17-19). Espy also teaches that surface-active agents or debonders (which can act as softeners by the instant disclosure) are used in tissues to facilitate penetration of water into the paper (col 1, lines 41-44).

Espy discloses numerous examples of the cationic polymer (resins A and C above) being added to the stock in an amount between 0.25 and 1 % by weight of the pulp and of the anionic polymer being added to the stock in an amount between 0.125 and 1 % by weight of the pulp (cols 13-17, Tables R, S, T and U). The concentrations in the examples significantly overlap the claimed ranges).

Espy teaches that the ratio of anionic to cationic polymers depends on several variables in the system and can be below 0.5 when optimized (cationic /anionic ratio greater than 2) (col 9, lines 33-58).

Vinson et al ('185) teaches that it is well known in the art to use wet strength agents, retention aids, and softeners in tissues (col 1, lines 60-64). Vinson et al ('185) discloses a tissue (abstract) that comprises wood pulp (col 15, lines 66-67 and col 16, lines 1-3); a wet-strength agent, which can be a polyamide-epichlorohydrin or urea-formaldehyde resin (col 13, lines 7-10); an anionic polymer that can be contain carboxylic acid monomers, including (meth)acrylic acid (col 11, lines 21-22, 40); and a bond inhibiting agent, which can be a quaternary ammonium compound, that serves to disrupt the fiber to fiber bonding and improve softness of the tissue (col 12, lines 6-19). The bond inhibiting agent can be present in an amount from 0.02 to 0.5% by weight of the tissue paper. This concentration significantly overlaps the claimed concentration. Vinson et al also discloses that the anionic polymer is preferably added before the cationic polymer (col 15, lines 8-15). Vinson et al ('185) further discloses that an advantage is obtained when the anionic polymer is added to the fillers before mixing with the remainder of the papermaking slurry and the cationic polymer (col 15, lines 32-

Art Unit: 1731

38), the advantage being a better retention of the fillers in the final paper. Vinson et al ('890) exemplifies this advantage using a comparison of tissue samples made with and without the anionic surfactant added with the filler (col 38, lines 60-67).

The art of Wallenius et al, Espy, Vinson et al and the instant invention are analogous as they pertain to the art of making tissue papers. It would have been obvious to one of ordinary skill in the art at the time of the invention to add the claimed cationic and anionic polymers softening agent to the tissue sheet of Wallenius et al in view of Espy and further in view of Vinson et al ('185) and and Vinson et al ('890) to obtain the desired strength and softness properties. It would also have been obvious to optimize the ratio of anionic to cationic polymers used in the tissue to obtain the claimed range. It would have also been obvious to add the anionic polymer before the cationic polymer to obtain better retention of fillers in the tissue.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure [Jansma et al (5490904), Headlam et al (5690790), Sun et al (5935383), Chen et al (6261679), Allen et al (6294645) and Chen et al (6395957)]. They disclose other fibrous webs containing polymeric and/or surfactant additives.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

Art Unit: 1731

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


DRC


STEVEN P. GRIFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700